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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,720	03/16/2004	Hirozumi Ogawa	M1071.1904	1031

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EXAMINER
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HOFFMANN, JOHN M

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 12/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/800,720

Applicant(s)

OGAWA ET AL.

Examiner

John Hoffmann

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10/10/06.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/10/2006 has been entered.

The terminal disclaimer filed on 9/8/2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Patent 6767503 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 1731

The last line of claim 1: there is no antecedent basis for "the oriented formed product". It is unclear if it should be interpreted as "the formed product which has an increased orientation degree" or if the second to last line should be "is oriented; and". In other words: there is quite a difference between something that is oriented and something which has an oriented degree.

The term "sheet-shape" is indefinite as to its meaning. A sheet can be square or circular, or in the case of a bedroom sheet, it can be rolled into ball or used as a parachute.

### ***Claim Rejections - 35 USC § 103***

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 1731

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirao 5902542 in view of Kingery "Introduction to Ceramics" page 10, Panda 4871496, Goldberger 5348694 Korb 4676944, Kawai 6199404 and Adachi 6042667.

See the prior Office Action for the manner in which Hirao, Kingery, Kawai and Adachi are applied.

Claim 1 has been amended to recite the sheet product does not touch a sidewall. Panda discloses that it is preferable to forge silicon nitride ceramics using an open die (i.e. with no sidewall contact); see col. 1, line 29 and col. 4, lines 63-66. Goldberger is cited as showing an open die set up (figure 1) for sintering ceramics – including nitrides (col. 3, line 2). Korb is cited as teaching that pressing with materials in contact with sidewalls can cause problems: col. 2, lines 16-21. It would have been obvious to use a Goldberger or other open die arrangement since such is a preferable way of sintering ceramics and/or so as to avoid detrimental contact with the side of the mold.

As to the limitation "whereby a formed product has an increased orientation degree". It is deemed that the pressing would inherently increase the orientation degree.

Art Unit: 1731

as set forth in Hirao. It is noted that the claim is very broad and does not indicate there is any connection between the oriented formed product and the sheet product. Since applicant admits on page 2 of the present specification that "a formed product has an increased orientation degree". The broadest reasonable interpretation of the claim includes the existence of any formed product at any location – for example 1000 miles away.

Claims 4, 8 and 9 require the grains have "a sheet-shape". Examiner takes Official Notice that "long" is a shape that some sheets have – for example a sheet of paper in a paper mill. Rods are "long" and thus have a sheet shape. Examiner could find nothing in the present specification, prior art or any dictionary which indicates that the term "sheet shape" is such that it precludes Hirao's rods.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

It is argued that Kingery refers to powder – and not a sheet. This is not persuasive because Kingery discloses that use of a metal mold is old and simple. Making things of metal is as old as the Bronze age. Examiner doubts that very many patent would be granted merely because it recites the use of "metal" as a material of a component – absent some showing of non-obviousness. The utility of metals is well known.

It is also argued that Kingery also teaches away from use of a metal mold because of pressure gradients and a resulting variation of density. The arguments fail to point out explicitly (page and line number) what disclosure in Kingery applicant is referring to. Examiner surmises that the arguments are based on the passage with a high length-to-diameter ratio. This is not convincing because a sheet has a very low length-to-diameter ratio. Additionally, see Panda col. 5, lines 3-14 which teaches the use of metal molds/dies – and that such is superior to graphite dies (such as which Goldberger uses: (Goldberger, col. 8, lines 25-39).

It is also argued that the expansion of the ceramics is not inherent because the compression could be due solely to pore space removal. This is not persuasive. Since the prior art does substantially the same thing that Applicant does, it is presumed to get the same results. Moreover, as most elementary school students know, when one pushes down on clay (or other plastic material), it gets thinner, but material will squish out the side. Still further, Panda teaches that the material flows: col. 2, line 9. One would reasonably infer that compressing a flowing material in an open die, would result in a flattening of the material.

From MPEP 2144.01 Implicit Disclosure:

"[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

See also, *In re Fritch*, 972 F.2d 1260, 1264-65, 23 USPQ2d 1780, 1782-83 (Fed. Cir. 1992); *In re Sovish*, 769 F.2d 738, 743, 226 USPQ 771, 774 (Fed. Cir 1985).

Art Unit: 1731

The arguments indicate that the claimed method achieved results which are both surprising and unexpected. Applicant has not pointed any evidence to support the conclusion that the results were surprising and unexpected. Nor is examiner aware of any. Moreover, Examiner is not aware that "surprise" is evidence of non-obviousness. Whereas there is sometimes a connection between surprise and newness, things maybe old and yet surprise those who are not familiar with the old things.

Applicants indicate they do not understand the basis for Examiner's assertion on page 9 that the claims encompass embodiments that do not have the new result. For the legal basis, see the top of page 8 of the Office action of 1/13/06. For the specific claims: Examiner could find nothing in the present claims which require the purported new result. Thus it is assumed that the present claims do not require the purported new results.

Arguments that are not addressed are deemed moot in light of the new grounds of rejection

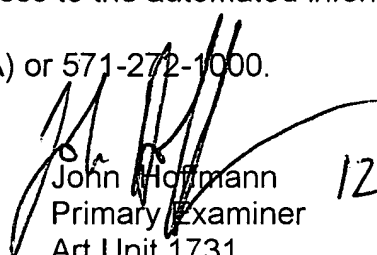
Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Art Unit: 1731

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
John Hoffmann  
Primary Examiner  
Art Unit 1731

12-4-06

jmh